DOCUMENT RESUME

ED 090 341 UD 014 159

AUTHOR Russell, Gail; Gaskin, Comer
TITLE A Positive Reinforcement System for Middle School Students: Sammye E. Coan Middle School, 1972-73.
INSTITUTION Atlanta Public Schools, Ga.
PUB DATE Nov 73
NOTE 21p.; Research and Development Report, Volume 7, Number 32, November, 1973

EDRS PRICE MF-$0.75 HC-$1.50 PLUS POSTAGE
DESCRIPTORS *Class Management; *Compensatory Education Programs; Disadvantaged Youth; Individualized Reading; Inservice Teacher Education; *Middle Schools; Paraprofessional School Personnel; Positive Reinforcement; *Reading Programs; Urban Schools
IDENTIFIERS Career Opportunities Program; Elementary Secondary Education Act Title I; *Georgia; Project Success Environment

ABSTRACT

According to a recent survey conducted under ESEA Title I, approximately 35 percent of the pupils attending Coan School were from low income families. Title I provided the services of a lead teacher and ten educational aides to allow more individualized instruction for these pupils. An informal reading laboratory continued to be maintained. Pupils experiencing the most severe difficulties were sent to the laboratory for group and/or individual help. The lead teacher worked with the teachers both in the classroom and in the reading resource room. Three particular activities received special attention: (1) aides continued to receive training for more effective use to the classroom teacher and pupils; (2) workshops and demonstrations were provided as an ongoing activity for English-Reading teachers; and, (3) classroom observations were made to see how teachers were managing to make use of, and/or how the lead teacher might offer assistance in the use of various techniques and approaches, such as individualized classroom organization, skills teaching, and multiple groups. Coan also received services from Project Success Environment which provided teachers training and support services to enable them to use a positive reinforcement system for classroom management. Also, six of the 12 paraprofessional aides were participants in the Career Opportunities Program. (Author/JM)

ED 090341

RESEARCH AND DEVELOPMENT REPORT

Vol. VII, No. 32 November, 1973

A POSITIVE REINFORCEMENT SYSTEM FOR MIDDLE SCHOOL STUDENTS

SAMMYE E. COAN MIDDLE SCHOOL
1972-73

W. T. Leaphart
Principal

Lessye M. Bellamy
Title I Lead Teacher

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Prepared by

Gail Russell
Research Assistant

Comer Gaskin
Statistician

Dr. Jarvis Barnes
Assistant Superintendent
for Research and Development

Dr. Alonzo A. Crim
Superintendent

Atlanta Public Schools
224 Central Avenue, S.W.
Atlanta, Georgia 30303

UD 014 153

Project Success Environment was assisted by the services of Mrs. Sylvia Jones, Project Success Environment Middle School Coordinator and Ms. Jennifer Daniell, Project Success Environment Middle School Lead Teacher.

Word Processing Staff: Pat Harris and Billie Shipp.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
SUPPORTING SERVICES	
Elementary Secondary Education Act, Title I	2
The Webster Classroom Reading Clinic	4
Reader's Digest Tutors	4
The Imperial Intermediate Reading Program	4
Decoding for Reading	4
Darnell Loft Specific Skills Series	5
Project Success Environment	5
Career Opportunities Program	7
NEEDS OF THE PUPILS	8
GOALS OF THE PROGRAM	8
BEHAVIORAL OBJECTIVES	9
CRITICAL VARIABLES	9
MANAGEMENT AND CONTROL	9
FINDINGS	
Iowa Tests of Basic Skills	10
Metropolitan Achievement Tests	13
California Achievement Tests	13
In-Class Observation	13
COST ANALYSIS	15
CONCLUSIONS AND RECOMMENDATIONS	17

LIST OF TABLES

Number		Page
1	Performance on the Iowa Tests of Basic Skills	11
2	Title I, Metropolitan Achievement Tests	14
3	California Achievement Tests	14
4	Cost Analysis	16

I. INTRODUCTION

The Sammye E. Coan Middle School is located in the Edgewood Community of east Atlanta. During the 1972-73 school year Coan School served the educational needs of approximately 1,456 sixth, seventh, and eighth grade pupils. Most of these pupils entered Coan School from one of six feeder elementary schools: Whitefoord, Wesley, Toomer, Fountain, East Lake, or Kirkwood.

In keeping with the middle school concept, Coan School serves the needs of the in-between age pupil. Some of the pupils are older children, some are pre-adolescents and others are early adolescents. Thus, the educational program is geared to individual pupil needs, realizing that these pupils are maturing at very different rates. To meet these needs the middle school emphasized nongradedness and makes provisions for team teaching, flexible scheduling and independent study.

Since the pupils attending Coan are experiencing their "middle" years as pupils, many are experiencing problems in personal adjustment. Thus, there is increased interest in and concern about their identity and their roles as they approach adulthood. The influence of the peer group is increasing and fear of rejection from the peer group is often a source of anxiety.

Given the developmental level of these pupils, there is often an increased preoccupation with social interaction and interpersonal relationships. For many pupils, this interest is healthy and serves to increase the pupil's awareness and positive interaction with teachers and other pupils. Other pupils, however, may experience frustration due to their inability to interact comfortably with their peers in social settings. Such frustration often leads to lack of interest in school, poor relationships with teachers and other pupils, and an indifference toward their educational progress.

In addition to these developmentally related problems, many of the pupils who attended Coan Middle School during the 1972-73 school year were also from families with a low per capita income. According to a recent survey conducted by Title I, approximately 597, or thirty-five per cent of the pupils attending Coan School were from low-income families.

The enrollment at Coan has been increasing; from 1,377 pupils in 1970-71, to 1,404 in 1971-72, to the current enrollment of 1,457, Average daily attendance is about ninety per cent. The mobility index, which reflects the extent of pupil turnover, was 0.18 during the 1972-73 school year. During 1971-72, the mobility index was 0.11 and during 1970-71, it was 0.17.

Since about thirty-five per cent of Coan pupils are from low-income families and since many of the pupils are behind in their academic achievement, Coan was eligible to receive Title I funds to promote academic achievement. These funds were designated as compensatory funds to provide additional services for the most educationally deprived pupils (as determined by performance on standardized achievement tests). In addition, Coan received services from Project Success Environment. Project Success provided teachers with training and support services to enable them to use a positive reinforcement system for classroom management and to facilitate achievement in reading and mathematics. In addition to Project Success and Title I, six of the twelve paraprofessional aides assisting in these special programs were participants in the Career Opportunities Program (COP). These aides were enrolled in an accredited college or university and planned to become teachers.

The special programs which were in operation at Coan School during the 1972-73 school year served to supplement the existing educational activities at Coan which were supported by general funds allocated by the Atlanta Board of Education.

II. SUPPORTING SERVICES

Elementary Secondary Education Act (ESEA), Title I; Project Success Environment; and the Career Opportunities Program (COP) provided supportive services to the regular educational program at Coan School. The following is a brief description of the kind of services provided by each of the special programs at Coan.

A. Elementary Secondary Education Act, Title I

The Title I effort was directed toward providing compensatory services for pupils identified as the most educationally deprived. An estimated 233 pupils were eligible to receive

these services. Thus, Title I provided the services of a lead teacher and ten educational aides to allow more individualized instruction for these 233 pupils. The informal reading laboratory which had been established and equipped the previous year continued to be used as a resource room for the individualization of reading. Pupils experiencing the most severe reading difficulties (according to the previous year's Metropolitan Achievement Tests (MAT) scores in reading) were sent from regular reading and language arts classes to the laboratory for group and/or individual help. The lead teacher worked with the teachers both in the classroom and in the reading resource room.

In addition to the individualized instruction, three particular activities received special attention during the 1972-73 school year. First, aides continued to receive training for more effective use to the classroom teacher and pupil. Special attention was given to the use of the aides for (1) the administering of simple diagnostic instruments and informal reading inventories, (2) the supervising of group activities especially those of groups utilizing teaching/learning programs, (3) the tutoring of individuals with reading deficiencies, and (4) the construction of teaching games and activities to remediate skill weaknesses.

Second, workshops and demonstrations were provided as an ongoing activity for English-Reading teachers to enable them to improve their reading instruction in the classroom.

Third, classroom observations were made to see how teachers were managing to make use of, and/or how the lead teacher might offer assistance in the use of the following techniques and approaches:

1. Individualized classroom organization including the use of a reading center, communication center, work area, and classroom group-interaction center.

2. Skills teaching.

3. Multiple groups.

4. Teaching of directed reading lessons.

5. Using audiovisual equipment.

6. Using games and fun activities to teach reading.

All pupils were provided prescriptive instruction in the form of skill teaching sessions conducted by the lead teacher and aides. In addition to the skill teaching sessions the following programmed and audiovisual materials and aides were used:

1. The Webster Classroom Reading Clinic

A flexible remedial reading program providing complete instructions and materials for diagnosing and correcting reading weaknesses in the basic phonetic and structural analysis skills.

2. Reader's Digest Tutors

Reader's Digest Skill Building program on levels four and six (levels two and three were also available) was used. This is a combination reading/listening program having text written and cassette recorded high-interest stories in varied subject areas visually and auditorialy coordinated; emphasizing skill building and comprehension.

3. The Imperial Intermediate Reading Program

A multi-media series of forty lessons including tapes, story cards and pupil activity books. The lessons are self-directing and self-correcting; the tapes utilize special effects, music and dialogue designed to stir the imagination and establish a strong interest in the material to be read. Reading levels in the full set are scaled from 2.0 to 9.0.

4. Decoding for Reading

For pupils in the middle grades who have failed to learn the essential reading skills. This program consists of sixteen records; thirty-one sides of which are instructional and review units, and one side of which contains the overall pretests and posttests -- two readalong books for each pupil containing printed

materials to accompany the records and the answers for pupil's self-correcting activities. Useful in any type instructional setting, but designed to perpetuate a one-to-one relationship between the teacher and the pupil.

5. Darnell Loft Specific Skills Series

A non-consumable reading program designed to develop seven reading skills on six basic reading levels. The program is presented in a mature format, providing intensive practice on materials that are informative and curriculum oriented. Darnell Loft program teaches the following skills:

a. Getting the main idea.

b. Using the context.

c. Working with sounds.

d. Following directions.

e. Locating the answer.

f. Drawing conclusions.

g. Getting the facts.

B. Project Success Environment

Project Success was in operation in three of the five teams in the sixth grade. Three teachers worked together on each team to provide instruction in an open classroom setting. The nine teachers who made up the three Project Success teams received training in the use of the "success technique." Training was provided at a two-week workshop (one-half day sessions) which were conducted during August, 1972. Two of the teachers had two previous years of experience in Project Success and three had one previous year experience. The other four were new to the program.

The teacher training included lectures presenting the theory behind positive contingency management along with guidance in curriculum planning. During the second week

of the workshop each teacher was given the opportunity to apply what she (or he) had learned in an actual classroom setting. The other teachers at the workshop, as well as the project staff, commented and made suggestions regarding how effectively the teachers had applied the success technique during the demonstration. Teachers also received extra pay (two hours per day) by reading assigned materials and passing a short test on the material with ninety per cent accuracy.

The success technique is an application of behavior modification principles which stresses reinforcing desirable pupil behavior and ignoring undesirable behavior. This application of reinforcement principles is familiarly stated as "Ignore and Praise". Project teachers used the success technique to promote two kinds of behavior: (1) desirable classroom behavior (i.e., to increase the percentage of time pupils were involved with assigned academic tasks, and to decrease the number of disruptions); and (2) academic behavior (i.e., the improved performance in reading and mathematics).

In order to change these behaviors, teachers gave tickets for desirable classroom behavior or for appropriate academic performance. After the first few weeks of school, tickets were given primarily for academic behaviors. The pupils could exchange the tickets for thirty minutes free time in an activity room. The activity room contained items such as a record player and records, a pool table and games of interest for pupils this age.

Trained data gatherers observed the project classes approximately once every two weeks. These data gatherers kept a record of the number of reinforcements and punishments administered by the teachers as well as the number of disruptions and percentage of time on assigned tasks exhibited by the pupils. This information was systematically recorded on a special form designed for this purpose by the Project Success staff.

Project teachers were taught to administer descriptive praise and to ignore disruptive behavior. Descriptive praise relates the praise to the specific behavior that the

pupil is being praised for. General or ambiguous praise was avoided. In addition, project teachers tried to ignore disruptions. Disruptions were not allowed to become a source of attention for the pupils.

Instruction was individualized to an extent. The classroom arrangement allowed the teacher to present materials to approximately one-third of the class at a time. Another one-third was assigned seat work while the rest of the pupils were allowed to visit one of the five interest stations located around the room. Pupils were given some tasks which they could accomplish easily to allow them to "taste" success. In addition, they were reinforced for their efforts. Attempts were made to evaluate and reinforce frequently and immediately upon completion of academic tasks.

The services of the Middle School Coordinator, Lead Teacher, and two paraprofessional aides were made available to Coan. The Coordinator and Lead Teacher provided diagnosis, prescription, and curriculum guidance for the teachers. The aides monitored the activities of the activity room, graded tests, and performed many of the clerical and logistical tasks associated with the use of the success technique.

Whereas the paraprofessional aides worked directly in the schools, activities of the Coordinator and Lead Teacher, as well as other project staff, were conducted from the Project Success central office.

C. Career Opportunities Program

Six of the twelve educational aides at Coan School were participants in the Career Opportunities Program (COP). COP is part of a nationwide effort to develop a career development module based on the concept that the public education offered to children of low-income families can be improved by reaching into the local neighborhood to enlist talented, dedicated adults to serve as educational aides. The COP participants at Coan School included: five Title I aides and one Project Success aide. The major purpose of COP was two-fold:

1. To bring to the learning situation persons who can contribute a first-hand understanding of a pupil's needs and values.

2. To provide training which will provide COP participants for careers of useful service in education.

III. NEEDS OF THE PUPILS

The following were identified as the primary needs of Coan Middle School pupils:

A. To develop and improve the basic reading skills.

B. To receive encouragement and immediate positive reinforcement for attention to assigned academic tasks.

C. To receive encouragement and immediate positive reinforcement for academic achievement, especially in the area of reading.

IV. GOALS OF THE PROGRAM

The following goals, which are based on the educational needs of the pupils, were proposed:

A. To provide learning experiences commensurate with the pupil's ability and previous background.

B. To provide materials and instruction necessary for the improvement of the pupil's basic reading skills.

C. To provide immediate positive reinforcement for the pupils in an effort to enhance academic achievement.

V. BEHAVIORAL OBJECTIVES

The following behavioral objectives were formulated to measure the extent to which the goals of the program were achieved:

A. Pupils in the Title I program will make one month's gain for every month in the program as determined by pretest and posttest scores on the Metropolitan Achievement Tests (MAT).

B. A random sample of sixth grade pupils participating in the Project Success program will make significantly greater gains on the California Achievement Tests (CAT) than a random sample of sixth grade pupils not participating in the Project Success program.

VI. CRITICAL VARIABLES

The critical variables to be measured during the 1972-73 school year include:

A. Reading.

B. Mathematics.

VII. MANAGEMENT AND CONTROL

Since instruction is carried out by the team teaching process, curriculum planning, including the establishment of objectives and class outlines, were all determined through team planning. Each team had a daily planning period during which they discussed and evaluated, identified areas of weaknesses, and made plans to alleviate these weaknesses.

The Title I lead teacher was in charge of planning and implementing the reading program. She coordinated the efforts of the ten Title I aides with the efforts of those classroom teachers who had Title I pupils. The Title I lead teacher also planned, equipped, and oversaw the activities of the Reading Laboratory at Coan.

The Project Success Coordinator, assisted by the project's Lead Teacher for the middle school, planned and oversaw the activities of those teachers participating in Project Success. In addition, they directed the efforts of the two Project Success aides and provided continuous feedback and suggestions to the Project Success teachers regarding their use of the success technique.

The school organization at Coan Middle School consisted of a principal, two assistant principals, a lead teacher, thirty-five classroom teachers, a librarian, and two counselors. Coan School is basically nongraded with pupils being grouped according to ability and current level of achievement. Coan School's structure is characterized by team teaching, flexible scheduling, and independent study.

VIII. FINDINGS

A. Iowa Tests of Basic Skills

Reading and mathematics achievement for sixth and seventh grade pupils was measured by the Iowa Tests of Basic Skills (ITBS) which was given to all pupils during April, 1973. A summary of the achievement data, including the predicted and national quotients, is presented in Table 1. The predicted and national quotients were obtained from the Pupil Achievement Study conducted by the Division of Research and Development.

The summary quotient referred to as the predicted quotient was obtained by comparing the actual pupil performance on the ITBS with their predicted performance. Predicted performance was obtained by entering the following six factors into a step-wise regression: (1) 1972 Metropolitan Achievement Tests (MAT) scores in reading, (2) 1972 Metropolitan Achievement Tests (MAT) scores in mathematics, (3) the mobility index, (4) the pupil-teacher ratio, (5) the per cent of paid lunches, and (6) the per cent of attendance. Pupils in the sixth and seventh grades did not achieve as much as was predicted by the regression formula. Eighth grade pupils did not take the Iowa Tests of Basic Skills (ITBS). The mean predicted quotient in reading

TABLE 1

PERFORMANCE ON THE IOWA TESTS OF BASIC SKILLS

Grade	Grade Equivalent Score				Summary Quotients	
	Actual	Predicted	National Norms	City-Wide Norms	Predicted	National
			Reading Test Data			
6	4.3	4.8	6.7	5.0	89	64
7	4.8	5.1	7.6	5.4	93	62
			Average		91	63
			Mathematics Test Data			
6	4.6	5.1	6.6	5.2	89	69
7	5.2	5.5	7.6	5.9	94	68
			Average		91	68
			Composite Test Data			
6	4.4	5.0	6.7	5.1	87	66
7	5.0	5.4	7.6	5.7	93	65
			Average		90	65

and in mathematics were both 91. The mean predicted quotient for the composite test data was 90. The seventh grade had higher predicted quotients than the sixth grade on all three measures: reading, mathematics, and composite test performance.

Pupils who were in the sixth grade during the 1972-73 school year had a mean reading level of 4.3. The predicted seventh grade reading level was 5.1, which indicates that they should gain eight months in reading during the 1973-74 school year. In mathematics they should gain nine months to go from their current 4.6 achievement level to the predicted 5.5 predicted 5.5 level. Those predictions assume that none of the factors which are entered into the regression formula are altered substantially.

Observation of the achievement data of fifth grade pupils who attended Coan's feeder schools during the 1972-73 school year indicates that Coan's 1973-74 sixth grade pupils should gain approximately seven months in both reading and mathematics to reach the predicted level.

The national quotient is a comparison of actual pupil achievement with the national norm for their grade level. The national quotient indicates that neither the sixth nor the seventh grade pupils were performing at the national norms. The mean quotient in reading was 63, in mathematics, 68, and for the composite test data, 65.

City-wide norms have also been included in Table 1. Sixth and seventh grade pupils at Coan were also below the city-wide norms in both reading and mathematics. In comparison to city-wide performance, Coan was in the sixth percentile on the predicted achievement quotient and in the fifth percentile on the national achievement quotient.

B. Metropolitan Achievement Tests

The word knowledge and the reading subtests of the Metropolitan Achievement Tests (MAT) were given to pupils receiving ESEA Title I services as a pretest in October and as a posttest in April. Title I had as its objective one month's gain for each month in school. This objective would require a gain of seven months between the October and April testing.

The results of the MAT testing are presented in Table 2. Sixth grade pupils gained three months on word knowledge and four months on reading. Seventh grade pupils gained three months on both subtests. Thus, these data indicate that Title I fell short of its goal of one month's gain for each month in the program as measured by the MAT.

C. California Achievement Tests

The California Achievement Tests (CAT) reading and mathematics subtests were administered to a random sample of sixth grade pupils participating in Project Success and to a random sample of sixth graders not involved in Project Success. The CAT was given on a pretest-posttest basis in October and in April. This comparison of project versus control performance is presented in Table 3.

In reading, the project pupils gained seven months compared to the five months gained by the control pupils. In mathematics, project pupils gained seven months while the control pupils gained six months. In both reading and mathematics, project pupils gained one month for each month in the program as measured by the CAT.

D. In-Class Observations

Project Success Environment collected in-class observational data on a systematic basis once every two weeks. Pupils were observed to determine the number of disruptions that were made and to determine the per cent of time those pupils were involved with assigned academic tasks. The data confirmed the findings of previous project data; that is, project pupils were approximately fifty per cent less

TABLE 2

TITLE I
METROPOLITAN ACHIEVEMENT TESTS

Grade	Number	Word Knowledge			Reading		
		Pretest	Posttest	Gain	Pretest	Posttest	Gain
6	83	3.1	3.4	0,3	3.2	3.6	0.4
7	96	3.4	3.7	0.3	3.5	3.8	0.3

TABLE 3

CALIFORNIA ACHIEVEMENT TESTS

Subtest	Project Pupils				Control Pupils			
	Number	Pretest	Posttest	Gain	Number	Pretest	Posttest	Gain
Reading	76	4.4	5.1	0.7	51	4.2	4.7	0.5
Mathematics	76	4.9	5.6	0.7	51	4.7	5.3	0.6

disruptive than were the group of control pupils. In addition, the percentage of time involved on assigned tasks ranged from eighty-five per cent at the beginning of the year to seventy-nine per cent toward the end of the year (as compared to the approximately 55-65 per cent exhibited by control pupils). There was no difference in the behavior of pupils whose teachers had one previous year of project experience versus those who did not have any previous project experience.

Teachers were observed to determine the frequency with which they reinforced and punished their pupils. It was found that teachers reinforced more frequently and punished less frequently than control teachers. Teachers who had one previous year of experience tended to reinforce less frequently than did the new project teachers. However, the experienced teachers continued to reinforce much more frequently than they punished.

IX. COST ANALYSIS

The cost analysis for the educational program at Coan Middle School is presented in Table 4. General funds, prorated over grade level, spent $803 per pupil at each grade level. Under compensatory funds, Project Success contributed approximately $68 per pupil for approximately 270 sixth grade pupils who received Project Success services. Title II spent approximately $0.88 per pupil for grades six through eight and Title I spent $77.86 per pupil for those pupils (approximately 235 pupils) in the sixth and seventh grades that received Title I services.

For sixth grade the total amount of compensatory funds spent was $146 per pupil. For the seventh grade, compensatory funds contributed $79 per pupil. In the eighth grade, the amount was $0.88 per pupil.

Thus, the total per pupil cost in the sixth grade was $949, in the seventh grade, total cost was $881 per pupil and in the eighth grade it was $803. The cost per unit of predicted achievement quotient was $11 for the sixth grade and $9 for the seventh grade.

TABLE 4

COST ANALYSIS

	Grades			
	Sixth	Seventh	Eighth	Average
Average Daily Attendance (ADA)	390	480	417	429
Per Pupil Cost				
A. General Funds				
1. Salary	$734.45	$734.45	$734.45	$734.45
2. Nonsalary	68.23	68.23	68.23	68.23
3. Total	$802.68	$802.68	$802.68	$802.68
B. Compensatory Funds				
1. Project Success				
a. Salary	$ 37.15	$ -0-	$ -0-	$ 11.26
b. Nonsalary	30.60	-0-	-0-	9.27
c. Total	$ 67.75	$ -0-	$ -0-	$ 20.53
2. Title II Program Nonsalary	$ 0.88	$ 0.88	$ 0.88	$ 0.88
3. Title I -- Regular Program				
a. Salary	$ 76.68	$ 76.68	$ -0-	$ 51.83
b. Nonsalary	1.18	1.18	-0-	0.80
c. Total	$ 77.86	$ 77.86	$ -0-	$ 52.63
4. Total Compensatory Funds				
a. Salary	$113.83	$ 76.68	$ -0-	$ 63.09
b. Nonsalary	32.66	2.06	0.88	10.95
c. Total	$146.49	$ 78.74	$ 0.88	$ 74.04
Total Per Pupil Cost				
A. Salary	$848.28	$811.13	$734.45	$797.54
B. Nonsalary	100.89	70.29	69.11	79.18
C. Total	$949.17	$881.42	$803.56	$876.72
Projected Achievement Quotient	87	93	---	90
Cost Per Unit of Projected Achievement Quotient				
A. General Funds	$ 9.75	$ 8.72	$ -0-	$ 8.96
B. Compensatory Funds	1.16	0.76	-0-	0.49
C. Total	$ 10.91	$ 9.48	$ -0-	$ 9.45

X. CONCLUSIONS AND RECOMMENDATIONS

The achievement level of the sixth and seventh grade pupils, at Coan Middle School as measured by the Iowa Tests of Basic Skills (ITBS), is considerably less than both their predicted level and the national norms. Both sixth and seventh grade pupils are performing at least two years behind their grade placement levels.

Objectives formulated to strengthen reading and mathematics performance should be judiciously chosen. All teachers should be thoroughly familiar with the reading and mathematics skills measured on the ITBS and, accordingly, strive to include activities in their reading and mathematics programs which would strengthen these skills. Areas of greatest weakness on the ITBS should be identified for special concentration.

Since the ITBS will be used during the 1973-74 school year to measure the gains of Title I pupils, the Title I reading program should also attempt to incorporate activities designed to strengthen those skills into their reading programs.

Since motivational variables may play a larger role in the academic performance of middle school pupils than they perhaps do with younger pupils, special efforts should be made to see that pupils attempt to perform maximally on the achievement test. In addition, pupils should be involved as much as possible in the instructional process and receive reinforcement for successful efforts. Perhaps pupils can be informed, on an individual basis, of how they performed on the ITBS, what their weakest areas were, and what they can do to improve their performance. It might be wise to provide the pupils with a list of the skills measured by the ITBS and to encourage them to accept a more active role in improving their performance.

Regardless of the particular classroom strategy which might be used to improve performance, each teacher should establish specific objectives and areas of concentration on which to focus his or her attention during the 1973-74 school year. Efforts should be made to identify successful educational practices and to design different activities to replace ineffective practices. Involvement of the pupils in their own educational process cannot be underestimated, especially since academic improvement is best accomplished jointly through a pupil-teacher effort.